

ENVIRONMENTAL ASSESMENT

OF RISK AND COMPLIANCE ISSUES

f o r t h e

ANNETTE ISLAND RESERVE

prepared for the

Metlakatla Indian Community

FINAL REPORT

October 30, 1994

**ENVIRONMENTAL ASSESSMENT
OF RISK AND COMPLIANCE ISSUES**

**for the
ANNETTE ISLANDS RESERVE**

**prepared for the
Metlakatla Indian Community**

**by
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May 16, 1994

**Updated and final report published by
Philip Johnson and Associates
Environmental Consultants
Bainbridge Island, Washington**

October 30, 1994

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INTRODUCTION

Since its founding, the Metlakatla Indian Community has depended on its natural resources. The fish and shellfish support major commercial fisheries. Along with the wildlife, they contribute to the local subsistence economy as well. The timber industry also provides employment at the two sawmills on the island. The lakes on the island, besides nurturing fish and wildlife, provide the Community with electric power and drinking water.

In spite of its dependence on clean waters and productive habitats, the Community faces serious environmental problems. The Annette Airport, a legacy of past military and commercial aircraft activity on the island, has hazardous waste in need of cleanup. The Community's solid waste landfill, typical of many in Alaska, has no suitable cover soil; heavy rainfall and high water table create runoff and leaching problems at the landfill. The two sawmills produce large volumes of wood waste as a by-product, and have limited options available to dispose of it.

Ongoing concerns of Community members, as well as events, such as a major fire at a wood waste disposal site, have prompted the Community, with support from the U.S. Environmental Protection Agency, to embark on a program to remedy these environmental problems. This environmental assessment is one step in that program.

The purpose of this assessment is to develop project priorities for the Community to pursue if it were to seek treatment as a state under certain federal environmental statutes, and to estimate the costs the Community would incur if it were to assume the costs of monitoring and enforcing environmental standards associated with those statutes.

Part 1 of this report summarizes the federal environmental laws and regulations that apply to problems on the Annette Islands Reserve. In Part 2, the report discusses the facilities on the Reserve in light of compliance with those laws. Finally, Part 3 includes recommendations for the Community to deal with these environmental problems and develops priorities for the projects which most urgently need to be addresses.

Part 1

APPLICABLE FEDERAL ENVIRONMENTAL LAWS AND REGULATIONS

The federal environmental statutes and regulations that affect the governmental, industrial and private activities on the Annette Islands Reserve are discussed in detail in the *Multi-Media Reference Manual* (hereinafter referred to as "the Manual") prepared by Hobbs, Straus, Dean and Wilder, July, 1992, primary author, Dean B. Suagee.

An on-island survey of compliance with these federal environmental laws and regulations was conducted in October, 1993. The physical survey identified activities, both past and present, that might be in conflict with requirements of the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, also known as "Superfund"). This section of this report therefore, will summarize pertinent provisions of these three acts and the applicable regulations with which the Community should be concerned in its effort to comply with federal environmental requirements.

The Clean Water Act (CWA) see Chapter 3 of the Manual.

The Clean Water Act is a long act, of over a hundred pages. The most important fundamental principle of the CWA is that there will be no discharge of pollutants into the waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit.¹ All wastewater discharges require an NPDES permit; there is no minimum level of water-carried pollutants below which a permit is not required.

Pollutants have been defined by the CWA and the courts as almost any substance that can be carried by water, including things normally thought of as valuable or usable, such as gasoline. The term "waters of the United States" has been broadly defined to include almost any stream, including intermittent small streams that might flow just once a year; wetlands; and concrete-lined storm ditches that flow into larger bodies of water. NPDES permits are issued by the U.S. Environmental Protection Agency (EPA), except for dredge and fill permits that are issued by the Corps of Engineers (the Corps) under Section 404 of the CWA.

¹ There are currently four NPDES permits issued for facilities on the Annette Islands Reserve:

1. The Metlakatla sewage treatment plant
2. The Annette sewage treatment plant
3. The Annette Island Packing Company
4. A now-inactive log transfer facility near the head of the bay, Port Chester

The Bureau of Indian Affairs requested a permit for the Tamgas Creek Hatchery. "For administrative reasons" EPA has not issued one, but the agency did issue certain water quality requirements for the hatchery's outfall.

Before EPA can issue an NPDES permit (under authority found at 33 USC 1342, also known as Section 402) for a discharge of wastewater, EPA must have a certification from the State of Alaska (under the authority found at 33 USC 1341, also known as Section 401) that the discharger's compliance with the terms of the EPA-proposed NPDES permit will result in physical compliance with the State water quality standards. Under the CWA, the authority to issue NPDES permits may be delegated to states and tribes. Neither the State of Alaska nor the Community has been delegated NPDES permitting authority as of the date of this report.²

The CWA divides the sources of wastewater pollutants into the categories called point and non-point sources. Examples of point sources are the outfall lines from the sewage treatment plant and the cannery. The sawdust and bark piles would probably be considered non-point sources by EPA.

Section 311 of the CWA (33 USC 1311) is based upon an obscure federal act passed in the 1920's as Congress' first attempt to prevent environmental harm from oil spills. The current version of this old act, now incorporated in the CWA as Section 311, requires facilities that store over 1,320 gallons³ of petroleum products, such as gasoline or diesel fuel, in above-ground storage to adopt and implement a plan (called an Spill Prevention, Containment and Countermeasures Plan, SPCC) that will prevent the contents of such tanks from reaching waters of the United States if the tanks fail.

The SPCC regulations are found in 40 CFR Part 112, and include having a written plan that addresses actions necessary to prevent an oil spill and activities that would take place in the event of a spill to prevent the oil or other material from spreading into the water.

Section 319 of the Clean Water Act is a program to control the discharge of pollutants from non-point sources. Permits are required under Section 319 for any stormwater which is "associated with industrial activity." Permits may therefore be required for the cannery and cold storage, the sawmills, docks, truck loading areas, and disposal sites. Applicants for a stormwater discharge permit are required to develop a Stormwater Pollution Prevention Plan (SWP3).

² Because Annette Island is a reservation, however, and the Metlakatla Indian Community is a federally recognized tribe, the State of Alaska plays very little role in environmental management. EPA administers environmental programs directly on reservations, until the tribes are ready to take over these programs themselves.

³ The thresholds are actually for any container holding over 660 gallons of petroleum product, or any number of containers with a total capacity of over 1,320 gallons.

The objective of the permit and the SWP3 is to describe site-specific sources of stormwater pollution and the ways in which the facility minimizes potential stormwater pollution discharges.

Section 404

As referenced above, Section 404 of the CWA establishes the requirement for a federal permit to conduct dredge and fill activities in waters of the United States. Waters of the United States include fresh and salt water extending to upstream areas and wetlands. Because muskeg is a wetland, the sawdust and bark piles in the muskeg would probably be considered filling activities that require a Section 404 permit from the Corps of Engineers.

Permits are issued by the U.S. Army Corps of Engineers, with review and advise from the Environmental Protection Agency.

Resource Conservation and Recovery Act, (RCRA) see Chapter 5 of the Manual.

The Resource Conservation and Recovery Act was passed in an effort by Congress to prevent harm to human health and the environment resulting from the uncontrolled disposal of hazardous waste upon land. The underlying regulatory theory for RCRA is to control the storage, transportation and disposal of hazardous waste. Generators of hazardous waste are responsible for keeping records of their waste materials from "cradle to grave."

As a general concept, hazardous waste is the by-product or the waste from a manufacturing or industrial process. Regulatory control begins at the original waste collection point and varies with the type and amount of waste collected over a unit of time. The regulations have specific requirements for the type of drums used at the original collection points, how they are marked for identification, as well as methods of storage and transportation. When the drums are full, they must be stored in specified areas for a limited time before transportation to an approved disposal site. Currently there are no EPA-approved hazardous waste disposal sites in Alaska. The nearest approved site is in Oregon.

Thousands of different types of substances have been identified as hazardous waste, and more continue to be created or designated or designated as hazardous. Determinations as to whether or not a substance is a hazardous waste must be made by comparing the substance against four basic criteria or finding the substance on lists published by EPA.

Transporters of hazardous waste must be licensed by the Department of Transportation. The transporters are required to maintain records of the source, type and destination of the hazardous waste transported.

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

CERCLA, also known as Superfund, (see Chapter 5 of the Manual) is perhaps the most complex of the federal environmental acts, the enforcement of which often results in extremely expensive cleanup efforts. The primary objective of CERCLA is to clean up orphaned and abandoned sites where hazardous waste has been accumulated. Because there are so many of these sites, EPA and the various states have established a priority list for initiating cleanup actions against sites that have been identified to date. This priority list is called the National Priority List (NPL). There is no site on the Annette Islands Reserve that is currently on or proposed to be added to the NPL.

Owners of land are responsible for making initial determinations as to whether or not a hazardous waste site exists on their property. Land owners are responsible for cleanup whether or not the site is on the NPL. The primary reason for this requirement is to prevent the escape of any hazardous waste from migrating off such sites onto property of others and into drinking water supplies and other public areas.

Part 2.

FACILITIES

This section describes the major facilities and operations on the Annette Islands Reserve and summarizes their impact on the issues dealt with under the federal environmental laws: water, solid waste, and hazardous materials.

The authors emphasize here that, although this section objectively describes the environmental impact of these facilities, the discussion is not intended as a personal criticism of any of the individuals involved in management or operation of these facilities. The individuals are, by and large, hard-working, well-intentioned employees, working at facilities that were designed by the standards of their times.

Standards have changed over the years, however. As Part 1 described, recent federal laws have new requirements and restrictions on facilities that impact air or water, or that handle solid waste or hazardous materials. The next eight sections, then, focus on local facilities in light of these new requirements.

When the study team inspected these facilities, we examined them in light of the following impacts:

- Impacts to air
- Impacts to water: Stormwater discharge
- Impacts to water: Point-source discharge
- Impacts to water: Wetlands
- Hazardous materials
- Hazardous waste
- Solid waste

The discussion of each of these facilities is organized around these topics. Where one of these topics is not mentioned, it was not observed, or did not appear to be an important regulatory issue.

ANNETTE HEMLOCK MILL**Description**

The Annette Hemlock Mill is a sawmill located on the shore of Port Chester, southeast of the cannery and the old boat harbor. The mill is owned by the Metlakatla Indian Community and leased to and operated by Ketchikan Pulp, a division of Louisiana Pacific.

The sawmill processes round logs harvested primarily from Tongass National Forest land and native corporation land. It produces cants (timbers sawn on at least three sides) and some dimensional lumber. With the exception of the dimensional lumber used locally, the cants and lumber produced at the mill are shipped overseas from the Port of Metlakatla EDA dock.

Logs are stored in rafts in Port Chester, and hauled out to a sort-yard on the east side of the mill. The logs are debarked and fed into the mill for sawing. Bark is stockpiled for land disposal (see discussion wetlands on page 8). Sawdust is shipped to Ketchikan Pulp. Cants and lumber are banded, marked and sealed on the northwest side of the mill, and stockpiled for later shipping.

In addition to the log handling and wood processing facilities, the sawmill has offices, buildings for maintenance of equipment and vehicles, fuel storage tanks and parking areas.

Impacts to air

The most noticeable effect of the Hemlock Mill on air quality resulted from the operation of a burner, constructed in about 1980 and used intermittently through 1990 to dispose of wood waste. The burner was constructed and operated without a permit from EPA. Several complaints from local citizens led to an enforcement action by EPA, which caused Louisiana Pacific to shut down the burner.

In 1992, Louisiana Pacific proposed building a wood-fired boiler, with electrostatic precipitator emission controls. The proposed boiler is intended to burn all types of wood waste from the mill and to produce heat and generate electricity in excess of the mill's power requirements. Surplus electricity will be routed into the Metlakatla Power and Light power grid, to provide additional power for the Community, and reduce the need for diesel generation.

In 1995, a Co-Generation plant was installed to replace the old wood burner. No surplus has been diverted to MPL as of publication of this report. The wood waste contains too much water to burn efficiently, and the Mill operators are working in good faith to resolve this issue and bring the system on line.

Impacts to water: Stormwater discharge

The Hemlock Mill's stormwater discharges originate from the paved areas west of the mill and from the unpaved area to the southeast of the mill, where the logs are removed from the water. Both areas receive any oil that drips from vehicles, as well as accumulated sediment and small particles of wood waste. In the paved area, the runoff is collected in storm drains and is discharged into the adjacent waters of Port Chester. In the unpaved area, sediment and larger volumes of wood waste contribute to the often turbid runoff into Port Chester.

Louisiana Pacific has taken steps to remedy the stormwater problem. The new system, which has been designed but not yet constructed, will route stormwater away from the shoreline into a collection system. The collected stormwater will be treated in two settling basins, one for the east (unpaved) side of the mill site, where the logs are removed from the water and sorted, and one for the west side, the mill buildings, parking area, and cant handling areas. The settling ponds will have concrete beams across the top to catch floating debris. Non-floating particles greater than 1 millimeter will be allowed to settle out. Finally, oil will be separated by absorption. The absorbent material will be taken to Ketchikan to be burned in the pulp mill's power burner. The effluent from the settling ponds will then be piped across a riprap bank and discharged into Port Chester at low water level.

At the time of publication of this report (October 30, 1995), construction of the new stormwater system has been moving toward completion and the system is in partially operation.

1. Impacts to water: Point-source discharge(s)

No point-source discharges have been identified from the Annette Hemlock Mill, and there are no NPDES permits to authorize point-source discharges. An NPDES permit has been issued to the Community for a log storage and transfer facility near the head of the bay, but that permit does not appear to apply to the log transfer operations at the sawmill.

Impacts to water: Wetlands

The Annette Hemlock Mill has, for over a decade, been disposing of wood waste, primarily bark chips, in the muskeg area south of Metlakatla. The mill produces 12,000 pounds of wood waste per hour when it is in full production, and the high water content of the bark has made it difficult to burn this material.

Wood waste was dumped across the road from Skater's Lake as early as 1979. As recently as 1993, wood waste was dumped in the muskeg to the south of the BIA road maintenance shed.

Filling of wetlands, including muskegs, is generally discouraged by regulations implementing Section 404 of the Clean Water Act. EPA's *Guidelines for Specification of Disposal Sites for Dredged or Fill Material* state: "...the degradation or destruction of special aquatic sites, such as filling operations in wetlands, is considered to be among the most severe environmental impacts covered by these Guidelines." As described in Part 1 of this report, the Clean Water Act requires that filling operations in wetlands receive a permit from the U.S. Army Corps of Engineers, with review by the U.S. Environmental Protection Agency.

The filling destroys wetland habitat, leaving an area offering considerably less habitat value for fish and wildlife. In addition, the leachate from the wood waste upsets the nutrient balance and biological productivity of muskeg lakes. The leachate is toxic to coho salmon, and very likely is toxic to other fish and aquatic invertebrates.

Disposal of new wood waste in the muskeg is likely to stop within the next year, as the mill will install a new burner that will dispose of all wood waste, as described above. Assuming that the burner becomes operational soon, the primary focus will become remediation of the problems created by past disposal of wood waste.

A 1983 study of Skater's Lake (Pacific Rim Planners and Engineers, 1983) considered three alternative approaches to remediation of the impact of wood waste leachate. These included:

- Diversion of leachate away from lake
- Treatment of leachate
- Removal of wood waste

Removal of the wood waste was determined to be the most expensive of the alternatives, estimated at between \$1 million and \$2 million. Treating the leachate was estimated to have a capital cost of \$48,000, with annual operation cost of \$1,600. Diverting the leachate away from Skater's Lake would cost between \$23,000 and \$64,000, depending on whether the leachate was to be diverted to Sawmill Creek, downstream of the lake, or out to Port Chester, to avoid impacting the creek. All these figures were estimates of costs in 1983. They would have to be updated to make them current, and revised to make them apply to the other wood waste disposal sites.

In 1995, the BIA began an investigation of the wood waste disposal sites. Results of this investigation are not yet available, but should provide the Community with a better understanding of the problems that may be associated with these areas.

Hazardous Materials and Hazardous Waste

Over the last several years, Louisiana Pacific has trained its employees in hazardous waste management. The Annette Hemlock mill ships waste oil to Ketchikan, to be burned to generate power at the pulp mill. Glycol coolants and hydraulic fluid are also shipped off the island for disposal as hazardous waste. Louisiana Pacific appears to be following hazardous waste management practices for generators as required by the EPA regulations (40 CFR Part 262).

Louisiana Pacific has also taken measures to reduce environmental risk with the end-sealing process. Oil based paint was used to seal the end of lumber and cants, and overspray from the process ended up on the floor of the building. Often this waste would run outside the building when the floor was wet during rainstorms. The company changed the end-sealing process to use a wax coating. Drippings from the wax are collected in a tank below the end-sealing operation and put back into the process.

Finally, the company has taken a step to reduce the volume of its hazardous waste by installing a machine to compact used oil filters and remove most of the used oil from them. This process reduces the volume of the material deposited in the landfill, and virtually eliminates the oil that would be dumped in the landfill with the filters. Because the mill has a fleet of trucks, loaders and other diesel-powered machinery, this is not an insignificant measure.

Solid waste

Other solid waste from the sawmill is trucked to the Community's solid waste landfill, described on page 26 in this report.

Recommendations

As described in the last three pages, many of the Annette Hemlock Mill's activities are being improved, or have been improved, to meet environmental regulations. The two most significant impacts, wood waste disposal and stormwater runoff, are in the process of being dealt with by installation of a new wood waste burner and development of a stormwater control and treatment system. Any recommendations that the study team might make here are already being pursued by the mill management and staff. We therefore recommend only that the mill continue with these efforts, and launch these new systems and practices as soon as they can begin.

2.2.

METLAKATLA FOREST PRODUCTS MILL (Formerly the MITE Mill or "Small" Mill)

Description

The MFP mill is a small sawmill owned and operated by the Metlakatla Indian Community, and has had an "on again - off again" history. The mill is located in the hangar building at the old Annette Airport. It mills logs under contract to logging companies, and produces dimensional lumber.

Because the mill is not located on the shoreline, logs are trucked in, and then stockpiled on the concrete apron outside the hangar. There is one processing line, which currently runs one shift per day.

As with the other sawmill on the island, the MFP mill produces wood waste. When the authors of this report reviewed the mill operations, wood waste was disposed of by dumping it in the muskag at the end of the B-runway.

While the plant was closed in 1994, a barker/burner was installed for the disposal of the wood waste, and the plant reopened in 1995.

Impacts to water: Stormwater discharge

The hard surfaces of the hangar, apron and runway could allow for a well designed system to control stormwater runoff, but no such system is in place. Stormwater from the site either runs off into the surrounding muskeg, or infiltrates through cracks in the paved surfaces, into the gravel fill on which the airport was constructed. At this time, the only known contaminants that might be carried in this stormwater are the oil that lubricates the mill chain, and oil and grease dripping from vehicles onto the pavement.

Impacts to water: Point-source discharge(s)

No point-source discharges have been identified from the MITE Mill, and there are no NPDES permits to authorize point-source discharges; however, as with the other industrial facilities, the MFP mill is subject to the stormwater control requirements of the Clean Water Act, and is required to prepare a SWP3 plan.

Hazardous Materials and Hazardous Waste

Perhaps because the MFP mill is in the early stages of operation, it does not have a highly developed system of handling and accounting for hazardous materials or hazardous wastes. During a 1993 visit to the mill, the authors observed a drum of hydraulic fluid leaking onto the floor. In response to

questions about how the mill disposes of coolants from its vehicles, the mill then manager replied that he had "no idea where they go."

The mill does have a well-intentioned, but poorly executed method for dealing with used engine oil. The used oil is applied as a lubricant to the mill chain and equipment. This approach avoids having to use new oil as a lubricant, and therefore serves as a recycling program for used oil. Unfortunately, the used oil, once applied, drips off the chain and falls onto the sawdust on the floor. The oil-contaminated sawdust is then burned in the wood waste burner.

The MFP mill also has a fuel storage tank capable of holding 6,000 gallons. With this capacity, over the 1,320-gallon threshold, the mill falls under the requirements for a SPCC (Spill Prevention, Containment and Countermeasures) Plan.

Recommendations

The MFP Mill needs to review how their hazardous materials are to be dealt with. Glycol coolants can be safely treated in the Community's sewage treatment plant, if they are metered in in small quantities. Used engine oil can be burned in a shop heater, such as the one used by Metlakatla Power and Light (described on page 21), or as start-up fuel for the wood waste burner. Other materials, such as used hydraulic fluid, solvents, paints, etc. should be stored indoors in 55-gallon drums, labelled with the words, "Hazardous Waste", and with the contents of the drum, and the date the material was placed in the drum. As discussed on page 32, the most efficient way to handle all this material would be with one centralized hazardous waste facility, which could safely store the drums until they can be barged off the island and transported to an EPA-approved disposal site.

ANNETTE ISLAND PACKING COMPANY**Description**

The pillar of Metlakatla's economy, the Annette Island Packing Company (AIPC) operates a cannery and cold storage on Port Chester. The company purchases salmon, herring, blackcod and halibut from both on-reservation and off-reservation fisheries. Most of the volume of salmon, largely net-caught pink salmon, is canned. The other species of salmon, and the herring, halibut and blackcod are processed at the cold storage and sold as frozen product.

The packing company's facilities in Metlakatla include docks for tenders and fishing boats to tie up and offload; processing lines and equipment at both the cannery and cold storage; maintenance shops for both company operations and fishing boat maintenance; warehouse space; and administrative offices:

Most of the buildings are constructed over the water on pilings. In general, the facility is well maintained.

Impacts to Air

At this time, the packing company has no air emission source subject to federal regulations. The boiler, which is used to supply steam to the cannery, is rated at about 1.3 million BTU per hour, well below the 100 million BTU threshold that regulates boilers and major sources of air pollutants. The boiler and associated building appeared to be in good order; however, there are numerous holes in the floor of the boiler room, where at one time machinery had been attached to the floor.

Impacts to Water: Stormwater discharge

It has not yet been determined whether the packing company has applied for a National Pollution Discharge Elimination System (NPDES) permit for stormwater discharges, and developed a Stormwater Pollution Prevention Plan (SWP3). A SWP3 pertinent to the packing company's operations would address areas with the potential for a spill of hazardous material from vehicles, or material being handled in areas where there is no containment. These include areas between the buildings, the loading docks, and the parking lot. The requirements for the NPDES permit and the SWP3 can be found in EPA's regulations in 40 CFR Part 122.26.

Impacts to Water: Point-source discharge

Fish processing waste is discharged through subtidal outfall lines, one each from the cannery and the cold storage, extending 100 to 150 feet offshore into Port Chester. The effluent includes macerated fish waste, ground to one-half inch particles, as well as washdown water from the floors and tables of the processing lines. The outfall lines were replaced and upgraded in 1989.

The only other point-source discharge from the packing company is the freshwater used to cool cans after they are removed from the retorts. That water is discharged below the dock at approximately the high tide line. This discharge contains chlorine and chlorine dioxide in water that is near 200 degrees Fahrenheit.

Annette Island Packing Company has an NPDES Permit to discharge fish waste and cooling water from the refrigerators and retorts. The original permit, issued in 1984, required dive surveys in 1984 and 1985 on the outfall line. In addition, the packing company must submit annual reports to EPA on daily monitoring of the processing operation.

Hazardous Material and Hazardous Waste Management

The hazardous materials used at the packing company include petroleum fuel for the boilers and equipment, machine lubricants, ammonia for the freezers, chlorine in 150 pound pressure containers, chlorine dioxide in 55 gallon drums, and paints and solvents used for general facilities maintenance. Many of these lubricants and cleaning solvents, after they are used, are placed in 55-gallon drums. These wastes have recently been transported and stored at the old Fairbanks generator plant. The deteriorating drums are not labeled in conformance with EPA requirements for hazardous waste generators. They are also stored outside without any spill protection.

Hazardous waste regulations require that hazardous waste be stored in drums that are in good condition, and marked with the date that hazardous waste was first deposited in the drum. The drums also need to be marked with the words "Hazardous Waste" (40 CFR Part 262). It has not yet been determined by what means and when the AIPC will dispose of these wastes.

The packing company has a 20,000-gallon fuel tank on the cannery site. The tank appears to be maintained in a good state of repair. There is a concrete spill containment wall around the tank which has wooden concrete form cross braces at the footings that were left in place while the walls were poured. These braces should be inspected to determine if any have rotted providing a conduit for water and potential spill material to escape from the containment system.

The containment walls need to be water tight. As the containment system fills with rain water, a record needs to be kept at each draining, along with any indications of spills or leaks from the storage tanks.

The quantity of boiler fuel stored on the site activates the 1,320-gallon-threshold planning requirement for Spill Prevention Control and Countermeasure (SPCC) regulations. The packing company is therefore required to have an SPCC plan, but does not yet have one at this time.

Solid Waste Management

Solid waste from the packing company's operations is taken by truck to the Community's solid waste landfill.

Regulatory Liability and Environmental Risk

The packing company has some regulatory liability from the lack of an SPCC Plan and an SWP3 Plan; and the storage of solvents and other hazardous waste out at the old MP&L Fairbanks generator site. Technically, the leaking water pipes under the cannery are unpermitted discharges and require a permit.

There is some environmental risk associated with how that hazardous waste is stored. Because the drums are stored outdoors in a deteriorating condition, without spill containment, it is likely that one or more of the drums will leak and release a contaminant into the environment. On the positive side, however, storing these drums at the Fairbanks site is preferable to depositing them at the dump. They are not buried, and they are in a location where the hazardous materials can be retrieved and disposed of properly.

Recommendations

The unpermitted discharges can be remedied by repairing the pipes. The packing company should implement a system for assuring that the facility is inspected periodically for unpermitted discharges.

The hazardous waste stored at the Fairbanks site should be packaged, labeled and stored properly. It should then be shipped off Annette Island for proper disposal. Some personnel from the packing company need to be trained to manage hazardous waste.

The boiler fuel tank and associated piping along with the concrete containment system should be inspected to minimize the risk of an oil spill into Port Chester. This inspection would be associated with developing and implementing an SPCC Plan.

2.4

SEWAGE AND WATER TREATMENT PLANTS

Description

There are two sewage treatment plants on Annette Island. Both plants are lagoon types; one is for Metlakatla and the other services Tamgas Apartments, the former FAA housing area.

Drinking water for the island comes from Chester Lake and Yellow Hill Lake and is treated by chlorination and fluoridation. The capacity of the Chester Lake plant is about 2.5 million gallons per day (1,800 gallons per minute) although normal use is about 1.0 million gallons per day in the summer, when the cannery and cold storage are operating. The capacity of the Yellow Hill Lake plant is 1.1 million gallons per day (800 gallons per minute) with normal use of about 750 gallons per minute. Water from Chester Lake drops 800 feet via a pipeline where a portion of it goes through a hydroelectric plant and the remainder goes to the water treatment plant.

Impacts to Water: Point Source Discharges

The Metlakatla sewage treatment plant discharges treated effluent through a pipeline into Port Chester, just west of the sandbar at the southwest end of Metlakatla. The effluent from the Annette sewage treatment plant is discharged into Tamgas Harbor between Crab Point and Tent Point. NPDES Permits have been issued for the wastewater treatment plants; however, Community staff working at the plants could not locate copies of the permits. The two plants are maintained, but the wastewater effluent is not tested to assure the plants are working properly.

The NPDES permits require the following monitoring:

Effluent Characteristic	Unit of Measurement	Sampling Frequency	Type of Sample
Total flow	cmd (mgd)	2 days/week	
Biochemical Oxygen Demand (5-day)	mg/l	semi-annually	24-hour composite
Settleable solids	mg/l	2 days/week	Grab
Suspended solids	mg/l	semi-annually	24-hour composite
pH	pH units	2 days/week	Grab
Residual chlorine	mg/l	2 days/week	Grab
Fecal coliform bacteria	number/100 ml	semi-annually	Grab
Source: letter from EPA Regional Administrator to Mayor of Metlakatla, July 22, 1975			

Wastewater Treatment System Operations

Metlakatla's sewage is routed to the treatment plant through a lift station on Western Avenue, near the new boat harbor. Because much of the town is no higher than the treatment plant, it will not flow by gravity to the treatment plant, and the pump in the lift station is necessary to move the sewage to the treatment plant. The lift station, therefore, is a critical component of the treatment system.

The Community's maintenance personnel have a difficult time keeping the lift station maintained. The system lacks an effective means to protect the pumps from debris in the system, so at times, one of the lift pumps fails, or is clogged by debris in the sewage lines. When a pump fails, untreated sewage overflows into Port Chester.

The station was not designed well with respect to getting equipment (pumps and motors) in and out. The lift station space where the pumping equipment is located is a confined space, adding more repair difficulty and breathing hazards for the maintenance personnel. Also, because the lift station is in an area that is near sealevel, it is prone to flooding. The electrical box for the station is at knee level with a corner of the box very close to the ground. Flooding, therefore, presents

a hazard to the electrical components of the lift station, increasing the likelihood of failure.

The wastewater ponds at the main wastewater plant appear to be in a good state of repair and operating, but the outfall line itself presents a problem.

The end of the outfall for the main wastewater plant is exposed during low tide. Although Port Chester generally has good tidal circulation, it is difficult to get proper effluent dispersion if the effluent is running undiluted across the beach at times of low tides.

The old FAA Annette wastewater pond is also operating, but there is a heavy growth of brush around the lagoon, which makes it difficult to access for maintenance purposes.

Water Treatment Operation

There are three water treatment plant operations on Annette Island. The larger plant, serving Metlakatla is located near the ferry terminal. A second plant serves the south part of the Metlakatla Peninsula, and is between Yellow Hill Lake and the MP&L administration building. The third is plant services the Tamgas Hatchery. These facilities appeared to be well maintained. Water samples are taken as required under the *National Primary Drinking Water Regulations* (40 CFR Part 141) and the results are within drinking water standards.

In 1995, inspection of the Yellow Hill Lake system revealed that many supply pipes are deteriorating, filters within the systems are plugged and the chlorine systems are in need of replacement. Water sampling of this system also needs to be improved.

Regulatory Liability, Environmental Risk and Recommendations

There is regulatory liability associated with not sampling the effluent for both wastewater treatment plants as specified under the pertinent NPDES permits. We recommend that a Community employee be trained how to take and analyze effluent samples, and start performing the tests. This process will help determine if the plants are working properly.

The plant designs should be reviewed (especially if it is determined that they are not working properly) to resolve some of the potential hazards to maintenance personnel, and potential health risks from a poorly dispersed effluent plume. This type of a review should be conducted by a civil engineer who is qualified in wastewater treatment design. The dispersal of the effluent plume can be improved by extending the discharge line out beyond extreme low water.

2.5

METLAKATLA POWER AND LIGHT

Description

A Community-owned utility, Metlakatla Power and Light (MP&L) operates two hydroelectric plants, a diesel generator plant, and a maintenance facility with administrative offices. MP&L provides electric power to all users on Annette Island.

Impacts to Water: Stormwater Management

The diesel generator site and the maintenance facility are subject to stormwater discharge management planning as per 40 CFR Part 122.26, due to the hazardous waste material outside the buildings, where there is the likelihood of a spill and release to the environment. MP&L currently has a SWP3 in place.

Impacts to Water: Wetlands

There has been no active filling of wetlands recently for MP&L projects, although the MP&L office and maintenance shop as well as the diesel generator site are adjacent to wetlands, and any expansion of these facilities might involve filling on wetlands. If filling should be proposed, it would require a Clean Water Act Section 404 permit.

In 1995, MP&L discovered that there are underground storage tanks at the maintenance facility. These tanks should be sealed and/or removed and soils tested to determine if the tanks have leaked.

Hazardous Materials and Hazardous Waste Management

Large quantities of various hazardous materials are stored in 55-gallon drums outside the MP&L maintenance shop and at the site of the former Fairbanks generator plant. The condition of the drums and the lack of labels makes it difficult to determine if the hazardous materials are waste or usable material. Much of the material stored at the Fairbanks site belonged to the AIPC, as discussed earlier.

Hazardous waste drums outside the Metlakatla Power and Light maintenance shop were in poor condition as well, and were in a state similar to those stored at the Fairbanks plant. Used engine oil from MP&L vehicles and other equipment is burned as fuel in a shop heater.

In 1995, MP&L brought in a 40 foot container to store their hazardous materials in while they await shipment for disposal.

Solid Waste

Metlakatla Power and Light sends all its solid waste to the Community landfill.

PCB Management

Polychlorinated biphenyls, or PCB's, are chemicals which, because of their electrical characteristics, were widely used in transformers and other electrical equipment. In the 1970's and 1980's, it was learned that PCB's are extremely toxic to humans, as well as to fish and wildlife, and their use in new equipment was discontinued. Old electrical equipment, however, may still contain PCB's.

Metlakatla Power and Light has tested the dielectric fluid in all the large transformers in the power system and has changed those which had PCB's. The utility company has also inspected all the smaller transformers on the power poles, with the results being recorded and on file.

The PCB regulations require parties using or possessing PCB's to keep records of PCB movements and disposition. MP&L has collected all the information needed to make the required document record but have not yet consolidated the data in the proper format required by the EPA.

Potential Subsurface Contamination

There may be subsurface contamination at the site of the old MP&L Fairbanks generator plant. There are black stains on the ground near where the old waste drums were stored at the site. These stains are adjacent to a drainage ditch, which eventually drains into Tamgas Harbor.

Because there are drums of hazardous materials stored outside at the site, it is reasonable to expect that some of these drums have leaked, and there could be a release of chemicals into the environment.

Storage of Large Quantities of Fuel

Fuel storage is a potential problem at the new MP&L generator site. The eight tanks at the site can hold 50,000 gallons each, for a total capacity of 400,000 gallons. With assistance from the Southeast Alaska Oil Spill Response Organization, MP&L has developed an oil spill contingency plan for the site. The plan satisfies the U.S. Coast Guard's concerns for spill prevention, and is now accepted by the EPA. MP&L's needs are complicated by requirements of three (3) agencies.

The Coast Guard requires that MP&L have containment capability to handle the spill from the pipeline connecting the storage tanks with the offloading site on the shore of Port Chester; if all the oil in the pipeline were lost, the spill would be

about 1,000 gallons. EPA, however, requires containment capability for a disaster involving the loss of oil from one full tank, or 50,000 gallons. Further complicating the situation, the Minerals Management Service, a federal agency under the Department of the Interior, requires that MP&L have insurance to cover the damage from a spill of the entire 400,000-gallon capacity of the tanks.

It should also be mentioned that MP&L maintains storage tanks at Tamgas Harbor in cooperation with Southeast Alaska Oil Spill Response Organization. If these tanks were ever to be used for storing oil recovered by this organization, a SPCC plan should be prepared. These tanks should also be tested periodically to assure their reliability.

Other Regulatory Liability and Environmental Risk

Metlakatla Power and Light has a regulatory liability for hazardous materials and hazardous waste. There are no systems in place to track and identify hazardous waste, and there are no documented plans and procedures to address spill prevention measures, spill protection, and cleanup. These tracking systems and written procedures are required for all hazardous materials, both waste and usable product.

There is environmental risk from the outside storage of hazardous materials, without spill protection, often close to water or wetlands. As noted earlier, these drums, exposed to the weather, can corrode and leak, endangering water quality and fish and wildlife habitat. If they should leak, they would require expensive cleanup efforts.

Recommendations

Metlakatla Power and Light can reduce legal liability and environmental risk by observing the following recommendations.

- Keep the hazardous materials inventory to a minimum.
- Store both hazardous waste and product material indoors with adequate spill protection.

If these practices are implemented, documented plans and procedures can be minimized. Certain requirements will remain, but with some training, MP&L personnel can write and maintain these plans and procedures, and can meet the requirements for record keeping, waste identification, hazardous waste management and the PCB records.

The SPCC plan for the Centennial Diesel Plant should be completed, although this may take some negotiations with the various federal agencies that have different requirements for oil spill containment. Spill protection is necessary

at the fuel tanks at the active diesel generator site. Protection measures, including concrete containment dikes, can be constructed by local personnel or contractors.

The potential for subsurface contamination should be investigated at the MP&L maintenance shop, as well as the site of the former Fairbanks diesel plant. This type of investigation should be designed and supervised by a remediation professional, and carried out by MP&L personnel or other individuals from the Community.

2.6

FUEL STORAGE AND HANDLING SITES

Sites of fuel storage and handling not discussed earlier in this report include Guthrie's Fuel Service at the town dock at Village Point; Annette Island Fuel Service (Roy Winter's station) on Walden Point Road; and the now inactive Coast Guard bulk fuel transfer facility and fuel service station at the Tamgas Harbor dock.

Impacts to Water: Stormwater Management

The two service stations are required to have a stormwater management plan in conformance with 40 CFR Part 122.26. No plan has been written for these two businesses.

SPCC Requirements

Spill prevention planning and protective measures are required for the two active fuel service stations, as per 40 CFR 112. A Spill Prevention Control and Countermeasures (SPCC) plan addresses fuel spill prevention measures as well as the process by which a spill could be contained and cleaned up.

The Winters' service station had good spill protection for the tank but not for the dispensing area. A SPCC plan has not been written for this operation.

Guthrie's Fuel Service has no spill protection systems in place, nor does it have an SPCC plan. Although some of the old fuel tanks that were leaking, have been removed, the location of the remaining tanks, only a few feet from the water, makes it important that they have spill containment.

Subsurface Contamination

There is potential for subsurface contamination around the former Coast Guard bulk fuel handling facility. There is a oily sheen on standing water around the tanks, and an odor of diesel fuel in the area, even though this facility has been inactive for about 15 years. The Federal Aviation Administration is currently addressing this site for contamination and remedial alternatives.

Regulatory Liability and Environmental Risk

There is regulatory liability associated with all these fuel operations because of the lack of stormwater management planning and oil spill management (SPCC) planning. The lack of spill protection places the environment at risk as well from spills.

Recommendations

Either the Community or the private fueling operations should have a consultant prepare the necessary stormwater and SPCC plans, and the measures included in these plans should be implemented. Containment systems for the fuel tanks and associated equipment should be designed by a professional engineer, and should be constructed for both active sites.

SOLID WASTE MANAGEMENT

Description

Solid waste on Annette Island is taken to a site on the west side of Airport Road, approximately three miles south of Metlakatla, where it is deposited in an open dump type landfill. Open fires are used to burn paper and other combustibles to reduce the volume of solid waste at the landfill. The landfill is located adjacent to a large wetland area, typical of the muskeg which covers most of the Metlakatla Peninsula and much of southeast Alaska.

Impacts to Air

The open fires at the dump can create an air pollution problem. Open burning is not a recommended procedure under the federal EPA *Guidelines to Land Disposal of Solid Waste* (40 CFR Part 241) and has been prohibited since April 9, 1994 when the EPA *Criteria for Municipal Solid Waste Landfills* (40 CFR Part 258) took full effect.

Impacts to Water

The water in the adjacent wetland has been observed with a film of oil on it. It can be reasonably assumed that this contamination came from the dump via either leachate or runoff. The vegetation in the muskeg downstream of the landfill is dominated by bulrush, rather than the sedges which are more typical in muskeg on Annette Island. The change in vegetation may indicate other stresses to the environment from landfill leachate. The BIA is currently investigating this issue and the results will be helpful in developing a closure plan for the dump.

The procedures under the EPA *Guidelines to Land Disposal of Solid Waste* (40 CFR Part 241) recommend that land disposal sites be operated in a manner that provides adequate protection to surface waters. These recommendations are mandatory, and landfill operators are required to conduct extensive monitoring to demonstrate that surface waters and groundwater are in fact being protected.

Other Landfill Management Issues

There are many other landfill management issues that are not being addressed as recommended by the *Guidelines* regulations (40 CFR Part 241) and required in the *Criteria* regulations (40 CFR Part 258). These issues include procedures such as daily covering of waste with soil to control rodents and other pests, and protect surface waters from contaminated stormwater runoff.

Regulatory Liability and Environmental Risk

Solid waste management as it is conducted on Annette Island has both regulatory liability and environmental risk. Southeast Alaska is unique in that there is very little topsoil available to develop sanitary landfills as required under the regulations. This type of soil is not available on Annette Island. Full compliance with the regulations requiring cover soil would be very costly.

Recommendations

Because the EPA *Criteria for Municipal Solid Waste Landfills* (40 CFR Part 258) has been in effect since April of 1994, the Metlakatla Indian Community faces significant choices for the future of solid waste disposal on Annette Island. The landfill must either be closed, or its operation and maintenance must be upgraded.

If the landfill continues to take solid waste the Community is required to meet extensive requirements regarding groundwater, wetlands, cover and control of rodents and other "vectors". Noteworthy among these requirements are the following:

- Because the landfill is located within two miles of Yellow Hill Lake, which is a drinking water source, the Community is required to monitor groundwater for contaminants for the life of the landfill, plus 30 years after the landfill is closed.
- The landfill is not able to expand laterally to cause significant degradation of wetlands. Since muskeg is considered a wetland, and the landfill is surrounded by muskeg, the regulations effectively prohibit lateral expansion.
- The Community is required to inspect solid waste as it is delivered to the site, to ensure that no hazardous materials are disposed of at the site.
- The Community needs to establish a system of record-keeping to record inspection data, groundwater monitoring results, and employee training procedures.

This activity will take engineering expertise to lead the Community through the process.

Because the landfill cannot feasibly be brought into compliance with the *Criteria*, it should be closed as soon as possible. Closure of the landfill, and changing to a different system for handling of solid waste may be a difficult

process, but the alternative of leaving the landfill operating will be very costly for the Community.

Instead of landfilling the solid waste, the Metlakatla Indian Community should consider alternatives for solid waste management, such as recycling, controlled incineration, and community composting. Recycling would reduce the volume of solid waste needing disposal. Controlled high-temperature incineration (referred to as "thermal processing" in the EPA *Guidelines*) would eliminate the combustibles, which account for about half the volume of the solid waste. Community composting could be used to combine food waste with other waste materials, such as partially decomposed bark chips and possibly fish processing waste, to produce a good source of topsoil for Community use or even for sale.

2.7. BOAT HARBORS

Metlakatla has two boat public boat harbors. The older of the two, constructed in the 1960's, is located adjacent to and southeast of the cannery. It has two floats, and accommodates approximately 35 vessels. The new boat harbor, opened in 1982, is about one-half mile southwest of Village Point. This harbor has four main floats, and can accommodate about 80 boats. Most of the boats in both these harbors are commercial fishing vessels, although there are also some pleasure craft. In general, the two boat harbors are well maintained, and there are few environmental problems with them.

The only environmental compliance problem associated with the boat harbors is the disposal of used oil from the boats. Because discharge of oil into waters of the United States is prohibited by the Clean Water Act, and boat owners need somewhere to dispose of their used engine oil, the Port of Metlakatla provides oil collection drums at each of the two boat harbors.

Most fishermen and other boat owners cooperate well with the Port's effort to collect used engine oil; however, the Port has limited personnel to supervise oil collection, and there is no control over what is dumped into the drums. Although the drums might contain only used engine oil, there is a possibility that some boat owners might be disposing of used hydraulic fluid, coolants, or diesel fuel or gasoline in the drums. The contents of the drums therefore cannot be burned in a precision burner such as the one operated by Metlakatla Power and Light. Instead, the Port transports the drums to the Hemlock Mill for disposal.

It should be noted that the volume of material disposed of in these drums is not great, perhaps amounting to only a few hundred gallons per year. Although Metlakatla's fishing fleet includes over 70 boats, which probably produce over 1,000 gallons of used engine oil in a summer fishing season, many of the fishermen change their engine oil at one of the larger fuel docks in nearby Ketchikan, where the used oil is collected for disposal. Thus, only a few hundred gallons of used oil collected at the boat harbors on Annette Island are in need of disposal in the Co-Generation Plant.

Recommendations

The Port's efforts to collect used oil are a well-intentioned effort to keep oil out of the marine environment. There are problems with the current practices, however. At its current level of staffing, the Port cannot be expected to examine the oil dumped into the collection drums. In the longer term, it is best to burn this material in the burner at the Annette Hemlock Mill.

3 SUMMARY AND GENERAL RECOMMENDATIONS

The environmental management risk issues for Annette Island discussed in Part 2 of this report include both regulatory problems and serious environmental risk problems. The regulatory problems are typified by the lack of stormwater control plans, or spill prevention plans. These can be addressed by preparing the plans and submitting the proper paperwork to the U.S. Environmental Protection Agency. The more serious risk problems, however are those from which damage will be expensive or difficult to remedy. These include the solid waste landfill, the wood waste disposal sites, the old Coast Guard tank farm at Tamgas Harbor, and the old MP&L Fairbanks generator site.

In all of these cases, something must be done to prevent the problems from worsening, and to reverse the damage already done. Some remediation activity has already begun at the old Coast Guard Tank Farm, and the Solid Waste Landfill. The Community needs to contract with a consultant to investigate the old Fairbanks plant for subsurface contamination and renovation of the buildings as a Material Recovery and Recycling Facility.

3.1 Community Environmental Office

The Community has taken steps to remedy these environmental problems by establishing an Environmental office. This office is a separate department which is subordinate to the Community Council. This branch needs to be supported by an assistant and a field technician, with advice from consultants as needed.

The Environmental Office needs to interact closely with biologists, foresters, and other Departments, such as staff in the Natural Resources Department, Public Health Department, as well as with the Public Works Department which operates and maintains the water treatment plants, sewage treatment plant, and the solid waste landfill.

The priorities for the Environmental Coordinator include:

- Collect, organize and maintain records on air and water discharges, hazardous materials and solid waste. Assist local facilities in meeting monitoring requirements for NPDES permits, etc.
- Upgrade solid waste disposal system.
- Arrange for storage and supervise disposal of hazardous waste.
- Improve handling of petroleum products and other hazardous materials.
- Monitor wood waste disposal sites and minimize damage to downstream resources.
- Investigate potential sites of subsurface contamination.

3.2 Centralized Environmental Laboratory

Meeting the monitoring requirements for waste discharge permits, and for maintaining the solid waste landfill will require extensive sampling, analysis and processing of samples. To perform this monitoring locally, the Community should establish an EPA-approved environmental monitoring laboratory. This laboratory could process samples taken at outfall sites from the wastewater treatment plants, the cannery and cold storage, and groundwater or soil samples from the solid waste landfill. In addition, the laboratory could be used by other Natural Resources Department operations, such as processing biological samples from herring surveys, shellfish PSP ("red-tide") monitoring, etc.

Local staff of the Environmental Protection Branch could be trained in the procedures to conduct the monitoring and sample analysis.

Because there are few EPA-approved labs in southeast Alaska, the Community's laboratory might be able to contract analysis work from other cities in the region, and help pay the cost of construction and operation of the lab.

3.3 Solid Waste Management

Because of the need to change its solid waste management practices, the Community should develop and implement a Solid Waste Management Plan that utilizes recycling as a primary management tool. In this planning process, the Community Council should appoint a Solid Waste Advisory Committee that would, with the assistance of a consultant, review all solid waste disposal options along with their advantages, disadvantages, and associated costs. With the community involvement, the plan would have a better opportunity of gaining local support and commitment.

3.4 Coordinated Hazardous Waste Storage and Handling

Although the problem has not reached crisis proportions, the Community does have a hazardous waste problem. As described in Part 2 of this report, drums of hazardous waste generated by the Annette Island Packing Company, Metlakatla Power and Light, and other sources sit unattended and unprotected, in a poor state of repair, in remote locations on the island.

Both common sense and federal regulations require more careful handling of this waste until it can be properly disposed of. At a minimum, the drums should be stored under cover in a dry location, so the weather does not deteriorate them. They should have labels showing their contents, as well as the date that hazardous waste was first deposited in the drum. The drums also need to be marked with the words "Hazardous Waste".

Because this material comes from more than one location, the Community, through its Environmental Protection Branch, should establish one centralized location for handling hazardous waste. The Community's staff could coordinate with local agencies

and businesses to receive and store the waste until it can be properly disposed of locally (e.g., through high-temperature incineration) or barged off the island for disposal at an approved hazardous waste site. Several contractors, such as Foss Environmental and Burlington Environmental, are available to ship and dispose of this material.

The storage facility need not be expensive; a sheet-metal building on a concrete pad would suffice. There are buildings at the old Coast Guard base that could be rehabilitated to use for hazardous waste storage. Likewise, labor costs would not likely be great if the Community has an Environmental Protection Branch staffed for other projects. If the hazardous waste is not disposed of properly, however, the risk to human health and the cost of cleanup of uncontained material from leaking drums will be much greater.

3.5 Regulatory Compliance

The Community and local facilities should improve their record of meeting the requirements of federal environmental regulations. With the exception of the Louisiana Pacific Annette Hemlock Mill, there are no stormwater control plans for the island. In addition, with at least four fuel storage sites, there are no Spill Prevention Control and Countermeasure Plans. Finally, the wastewater treatment operations have not been monitored, even though their discharge permits require daily monitoring.

Compliance with environmental regulations is not merely a matter of paper-shuffling. As Community and other staff prepare these plans and conduct the monitoring, problems may become apparent and contingencies may emerge that were not expected. Bringing these problems to light in the planning process is the first step in solving them and preventing environmental damage from spills or other events.

For facilities that do not yet have these plans, an outside consultant could develop them Community-wide, saving the cost of developing individual plans from the beginning. Then Community personnel could be trained, as noted above, in the regular monitoring needed to ensure that systems are operating properly.